

Micromachined Capacitive RF Pressure Sensor

Abstract

A Capacitive Micromachined Ultrasonic RF (CMURF) pressure sensor is described. This micromachined pressure sensor has: pressure sensitive capacitance elements including a scalable array of micromachined cells of the type including electrodes carried by a sealed membrane supported above a common electrode with conductive lines interconnecting the electrodes having an electrostatic capacitance ΔC_m changing with a pressure to be detected; reference capacitance elements including a scalable array of micromachined cells of the type including electrodes carried by a stacked of membranes supported above a common electrode with conductive lines interconnecting the electrodes having an electrostatic capacitance C_m not changing with the pressure. A method of operating a pressure sensor array is also described.